

HZO Sentinel Plus™ Material Properties



Environmental Properties	Test Specification	Value
Operating Temperature Range	Water Contact Angle (WCA) is preserved.	-55°C to +125°C
Flammability	UL94	Pass - V0 (Does not burn)
Decomposition Temperature	TGA (10% wt loss in air)	>300°C
Surface Insulation Resistance	IPC TM-650 2.6.3.5	4.8 x 10 ¹³ Ω
Moisture and Insulation Resistance	IPC TM-650 2.6.3.4A	3.5 x 10 ¹¹ Ω

Chemical Properties	Test Specification	Value
Hydrophobicity / Water Contact Angle	ASTM D7334-08	95°
Fluorescence	Visual under UV black light	No
PFOS / PFOA Compliant	US EPA 3550C:2007	Pass - None Detected
Fungus Resistance	ASTM G21	Pass - No Growth
Chemical Resistance	Isopropyl Alcohol Immersion	Pass
	Class IIIa - Mixed Flowing Gas [SO ₂ , NO ₂ , H ₂ S, Cl ₂]	Pass (No corrosion through coating)

Optical Properties	Test Specification	Value
Transparency - Visible Light	IPC CC-830B 3.5.2	Pass

Physical Properties	Test Specification	Value
Thickness	N/A – Ellipsometry	20 to 80nm
Appearance	IPC CC-8308 3.5.2	Pass (Smooth, defect free)
Flexibility	IPC TM-650 2.4.5.1	Pass

Electrical Properties	Test Specification	Value
Dielectric Constant (@1MHz)	ASTM D150-98	2.15
Dissipation Factor (loss tangent) (@1MHz)	ASTM D150-98	0.017